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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,079	06/20/2003	Elliot N. Linzer	03-0578 1496.00309	6852

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LSI LOGIC CORPORATION
1621 BARBER LANE
MS: D-106
MILPITAS, CA 95035

EXAMINER	
RAO, ANAND SHASHIKANT	
ART UNIT	**PAPER NUMBER**
2621	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,079	LINZER, ELLIOT N.	
	Examiner	Art Unit	
	Andy S. Rao	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-25 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-25 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato.

Kato discloses method for representing a motion for two blocks (Kato: column 34, lines 65-67; column 35, lines 1-20), comprising the steps of: exchanging a particular value of a plurality of values with a memory (Kato: column 7, lines 40-54 and lines 60-67; column 8, lines 1-11), each of said values defining (Kato: column 23, lines 10-35) which of said two blocks use which of a plurality of motion vectors based upon one of a plurality of prediction types (Kato: column 19, lines 45-67; column 20, lines 1-55); and representing said motion for said two blocks with a of said motion group comprising up to all of said motion vectors (Kato: column 21, lines 60-67; column 22, lines 47-60), as in claim 1. However, Kato fails to disclose that the group comprises both the particular value and the motion vectors as in the claim. However, one of ordinary skill in the art would note that since Kato discloses generating a register index

designation signal for accessing one of the four motion vector registers containing the motion vectors (Kato: column 24, lines 20-35), it would have been obvious for one of ordinary skill in the art to further group the register index designation signal with the selected motion vector in order to enable vector processing on the decoding side of the method for efficient reconstruction (Kato: column 29, lines 50-67; column 30, lines 1-32). The Kato method, now grouping the register index designation signal with the motion vector, has all of the features of claim 1.

Regarding claim 2, the Kato method, now grouping the register index designation signal with the motion vector, has wherein said group comprises a plurality of bits that is less than a maximum number of bits capable of representing each unique possibility for said motion vectors (Kato: column 20, lines 40-55), as in the claim.

Regarding claims 3-4, the Kato method, now grouping the register index designation signal with the motion vector, has wherein a first plurality of said motion vectors for a first of said two blocks are equal to a second plurality of said motion vectors for a second of said two blocks (Kato: column 20, lines 1-35), as in the claims.

Regarding claims 5-6, the Kato method, now grouping the register index designation signal with the motion vector, has wherein said group includes at most two of said motion vectors (Kato: column 19, lines 45-67), as in the claims.

Regarding claim 7, the Kato method, now grouping the register index designation signal with the motion vector, has wherein one said values defines using none said motion vectors (Kato: column 18, lines 5-10).

Regarding claim 8, the Kato method, now grouping the register index designation signal with the motion vector, has using a 0 prediction of said prediction types for wherein each of said

motion vectors is used for one of said two blocks (Kato: figure 7, vectors for MB0), as in the claim.

Regarding claim 9, the Kato method, now grouping the register index designation signal with the motion vector, has using list 1 prediction of said prediction types for said motion vectors, wherein each of said motion vectors is used for one said two blocks (Kato: figure 7, vectors for MB1), as in the claim.

Regarding claim 10, the Kato method, now grouping the register index designation signal with the motion vector, has using a bidirectional prediction of for said motion vectors, wherein each of used for both of said two blocks (Kato: column 18, lines 1-5), as in the claim.

Regarding claim 11, the Kato method, now grouping the register index designation signal with the motion vector, has the sub-steps of: generating said group with said particular value while a bitstream and above a predetermined standard level for generating said groups without said particular value while below said predetermined standard level for said bitstream (Kato: column 24, lines 10-35), as in the claim.

Regarding claim 12, the Kato method, now grouping the register index designation signal with the motion vector, has interpreting said motion vectors in said group based upon said particular value for a bitstream and using said motion vectors in said group independently of said particular value while for said bitstream. while above a predetermined standard level below said predetermined standard level (Kato: column 40, lines 40-67; column 26, lines 1-60), as in the claim.

Kato discloses an apparatus (Kato: figure 1), comprising: a memory (Kato: column 23, lines 40-50); and a circuit configured to exchange a particular value of a plurality of values

(Kato: column 7, lines 40-54 and 60-67; column 8, lines 1-11) with said memory (Kato: column 23, lines 5-20), each of said values defining (Kato: column 23, lines 10-35) which of said two blocks use which of motion vectors based upon one of plurality of prediction types (Kato: column 19, lines 45-67; column 20, lines 1-55) and represent a motion for said two blocks with group comprising up all of said motion vectors (Kato: column 21, lines 60-67; column 22, lines 47-60), as in claim 13. However, Kato fails to disclose that the group comprises both the particular value and the motion vectors as in the claim. However, one of ordinary skill in the art would note that since Kato discloses generating a register index designation signal for accessing one of the four motion vector registers containing the motion vectors (Kato: column 24, lines 20-35), it would have been obvious for one of ordinary skill in the art to further group the register index designation signal with the selected motion vector in order to enable vector processing on the decoder side of the apparatus for efficient reconstruction (Kato: column 29, lines 50-67; column 30, lines 1-32). The Kato apparatus, now grouping the register index designation signal with the motion vector, has all of the features of claim 13.

Regarding claim 14, the Kato apparatus, now grouping the register index designation signal with the motion vector, has wherein said group comprises plurality of bits that is less than a maximum number of bits representing every unique possibility for said motion vectors (Kato: column 20, lines 40-55), as in the claim.

Regarding claims 15-16, the Kato apparatus, now grouping the register index designation signal with the motion vector, has wherein said particular value defines how many of said motion vectors are used by at least one of said two blocks (Kato: column 20, lines 1-35), as in the claim.

Regarding claim 17, the Kato apparatus, now grouping the register index designation signal with the motion vector, has a coding circuit configured to encode said particular value within a bitstream (Kato: figure 1), as in the claim.

Regarding claim 18, the Kato apparatus, now grouping the register index designation signal with the motion vector, has a decoder circuit configured to decode said particular value from a bitstream (Kato: figure 5), as in the claim.

Regarding claim 19, the Kato apparatus, now grouping the register index designation signal with the motion vector, has a first of said values defines using none of said motion vectors (Kato: column 18, lines 5-10); a second of said values defines a first prediction of said prediction types; (Kato: column 17, lines 60-62) a third of said values defines a second prediction of said prediction types (Kato: column 17, lines 63-65); and fourth said values defines a bidirectional prediction of said prediction types (Kato: column 18, lines 1-5), as in the claim.

Kato discloses an apparatus (Kato: figure 1) comprising: means for storing a group (Kato: column 23, lines 40-50); means for exchanging a particular value of a plurality of values (Kato: column 7, lines 40-54 and lines 60-67; column 8, lines 1-11) with said means for storing (Kato: column 23, lines 5-20), each of said values defining (Kato: column 23, lines 10-35) which of said two blocks use which of a plurality of motion vectors based upon one of a plurality of prediction types (Kato: column 19, lines 45-67; column 20, lines 1-55); and means for representing said motion for said two blocks with a group comprising up to all of said motion vectors (Kato: column 21, lines 60-67; column 22, lines 47-60), as in claim 20. . However, Kato fails to disclose that the group comprises both the particular value and the motion vectors as in the claim. However, one of ordinary skill in the art would note that since Kato discloses generating a

register index designation signal for accessing one of the four motion vector registers containing the motion vectors (Kato: column 24, lines 20-35), it would have been obvious for one of ordinary skill in the art to further group the register index designation signal with the selected motion vector in order to enable vector processing on the decoder side of the apparatus for efficient reconstruction (Kato: column 29, lines 50-67; column 30, lines 1-32). The Kato apparatus, now grouping the register index designation signal with the motion vector, has all of the features of claim 20.

Kato discloses a method for representing a motion for two blocks (Kato: column 34, lines 65-67; column 35, lines 1-20), comprising the steps of: exchanging a representation of a representation of motion with a memory (Kato: column 7, lines 40-54 and lines 60-67; column 8, lines 1-11), as in claim 21. However, Kato fails to disclose generating a representation for said motion having less than maximum number of bits capable of representing each none of said motion vectors, as in the claim. However, one of ordinary skill in the art would note that since Kato discloses generating a register index designation signal for accessing one of the four motion vector registers containing the motion vectors (Kato: column 24, lines 20-35), it would have been obvious for one of ordinary skill in the art to further group the register index designation signal with the selected motion vector in order to enable vector processing on the decoding side of the method for efficient reconstruction (Kato: column 29, lines 50-67; column 30, lines 1-32). The Kato method, now grouping the register index designation signal with the motion vector, has all of the features of claim 21.

Regarding claim 22, the Kato method, now grouping the register index designation signal with the motion vector, has wherein said representation comprises a binary representation (Kato: column 23, lines 10-35), as in the claim.

Regarding claims 23-24, the Kato method, now grouping the register index designation signal with the motion vector, has wherein said representation is configured to accommodate a first number of possible vectors for a first block of said two blocks, for a second of said motion vectors for said first block, (iii) a said motion vectors for a first a second number of possible vectors third number of possible vectors for a third of said motion vectors for a second block of said two blocks and (iv) a fourth number of possible vectors for a fourth of said motion vectors for said second block (Kato: column 20, lines 1-35), as in the claims.

Regarding claim 25, the Kato method, now grouping the register index designation signal with the motion vector, has wherein said representation is capable of representing up to two motion vectors for each of said two blocks (Kato: column 20, lines 1-35), as in the claim.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cen discloses reverse playback of MPEG video using vectors.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andy S. Rao
Primary Examiner
Art Unit 2621

asr
April 10, 2006

ANDY RAO
PRIMARY EXAMINER